

**TETRA TECH, INC.**

4213 State St., Suite 205  
Santa Barbara, CA 93101  
Telephone (805) 681-3100  
FAX (805) 631-3108

Project: **Vandenberg Air Force Base**  
Log of Well No. **5-MW-3**

Location: **OU5, Site 5, SLC-3E, approx. 750 ft southeast of retention basin in Bear Creek Canyon tributary.**

Date Started: **3/8/94** Completed: **3/9/94**  
Logged By: **J. Rohrer** Checked By: **R. Horwath, RG**  
Drilled By: **A. Simones, S/G Testing**  
Drilling Equipment: **CME 75, 8/10" HSA**  
Sampling Equipment: **2" ID Split-Spoon**  
GS Elev.: **292.8** ft above MSL TD: **55.5 ft** bgs

4" PVC Blank Casing: from **0** ft bgs to **15.1** ft bgs  
.010" Screened Casing: from **15.1** ft bgs to **25.1** ft bgs  
Bentonite/Cement Grout: from **0** ft bgs to **8** ft bgs  
Bentonite Transition Seal: from **8** ft bgs to **12.25** ft bgs  
2/12 Sand Filter Pack: from **12.25** ft bgs to **26** ft bgs  
TOC Elev.: **294.96** ft above MSL

Depth (ft bgs)	DESCRIPTION	Graphic/ USCS	Well Construction	Sample Blow Counts Per 6"	Percent Recovery	PID(ppm) Amb/Smp	REMARKS
	<u>silty sand</u> brown (7.5YR 4/3), fine grained, minor silt, well sorted, subangular to rounded, slight iron staining, very loose, alluvium.	SM		0 2 1 2	63	1.4/3.2	Start 0920. Sample V5MW3-0 sent for chemical tests.
				2 3 4 4	83		
				2 4 4 4	75	1.8/2.3	Sample V5MW-3MS sent for chemical tests.
				4 4 4 4	83		
	From 6 ft. 9 in. to 6 ft. 11 in. -- <u>silt</u> dark brown (10YR 3/3), minor clay, well sorted, moderate iron staining, firm, dry, alluvium.	ML SM		2 3 4 4	100		
	<u>silty sand</u> brown (7.5YR 4/3), fine grained, minor silt, well sorted, subangular to rounded, moderate iron staining, loose, moist, alluvium.	ML SM ML		2 3 4 6 7 9	75	1.7/3.1	
	From 8 ft. 4 in. to 8 ft. 5 in. -- <u>silt</u> dark brown (10YR 3/3), minor clay, well sorted, moderate iron staining, firm, dry, alluvium.	SM		3 2 2 3	100		Sample V5MW3-10 sent for chemical tests.
	From 8 ft. 5 in. to 8 ft. 8 in. -- <u>silty sand</u> brown (10YR 5/3), fine grained, minor silt, well sorted, subangular to rounded, moderate iron staining, loose, slightly moist, alluvium.	SM-SC		3 3 4 6 9 10	79	.5/1.9	
	From 8 ft. 8 in. to 8 ft. 9 in. -- <u>silt</u> dark brown (10YR 3/3), minor clay, well sorted, moderate iron staining, firm, dry, alluvium.	SM		5 6 9	0		Start of PVC vee-wire screen.
	From 8 ft. 9 in. to 10.0 ft. -- <u>silty sand</u> brown (10YR 4/3), fine grained, trace silt, well sorted, subangular to rounded, moderate iron staining, medium dense, slightly moist, alluvium.	SM		4 6 8 11	100		Sample V5MW3-15 sent for chemical tests.
	<u>silty clayey sand</u> brown (7.5YR 4/3), fine grained, minor clay, moderately sorted, subangular to rounded, moderate iron staining, low plasticity, loose, slightly moist, alluvium.						
	<u>silty sand</u> brown (7.5YR 4/3), fine grained, moderate silt, moderately sorted, subangular to rounded, moderate iron staining, medium dense, moist to wet, alluvium.						
	Same, except wet.						
							Sample V5MW3-19 sent for physical tests.

17.0 ft bgs ≡ Groundwater depth during drilling

18.4 ft bgs ≡ Groundwater depth after well development on: 3/22/94

TC Number: 7301-11

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	<u>silty sand</u> brown (7.5YR 4/3), fine grained, moderate silt, moderately sorted, subangular to rounded, moderate staining, medium dense, wet, alluvium.	SM		2 4 5 5	100		
	<u>clayey sand</u> black (10YR 2/1), fine grained, minor silt, moderate staining, subangular to rounded, low plasticity, medium dense, wet, alluvium.	SC		0 4 13 17	100		
25	<u>silty sand</u> dark yellowish brown (10YR 4/4), fine grained, moderate silt, subangular to rounded, medium dense, wet, with thin gray (10YR 6/1) clay interlayers, high plasticity, firm, moist, alluvium. Fine to coarse grained at 27.5 feet.	SM		2 6 7	100	2/3.2	
				5 6 23 33	100		
30	<u>clayey sand</u> dark yellowish brown (10YR 4/4), fine and medium grained, moderate silt, subangular to rounded, slight iron staining, low plasticity, medium dense, very moist, with trace thin clay layers, gray (10YR 6/1), high plasticity, firm, moist, alluvium, interlayered with: <u>silty sand</u> dark yellowish brown (10YR 4/4), fine and medium grained, moderate silt, subangular to subrounded, slight iron staining, no plasticity, very dense, moist, alluvium.	SM-SC		4 10 29 25	100		Total depth of 10" hole at 26' bgs. Bentonite plug between 26' and 33' bgs.
				15 22 29	100	0/6.0	
	<u>clayey sand</u> black (10YR 2/1), fine grained, minor silt, subangular to rounded, moderate sorting, dark staining, very dense, moist, alluvium.	SC		7 9 12 14	100		
35	<u>silty sand</u> light yellowish brown (10YR 6/4), fine grained, minor clay, subangular to subrounded, dense, moist, alluvium.	SM		6 19 22	100		
				13 20 19	100	0/13.1	
	<u>silt</u> pale yellow (5Y 7/3), minor clay, medium plasticity, slightly moist, stiff, slight iron staining, well sorted, alluvium.	ML		5 5 7 5	100		
40	<u>silt</u> olive (5Y 4/4), minor clay, minor iron oxide staining, low plasticity, stiff, very moist, alluvium.			5 7 9	89	0/39.5	Sample V5MW3-40 sent for chemical tests.
				2 3 5 9	100		
				0 0 4 7	100		
				3	100	0/9.9	

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	<u>silt</u> olive (5Y 4/4), minor clay, minor iron oxide staining, low plasticity, stiff, very moist, alluvium.	ML		5 9 27			
	<u>silty sand</u> light yellowish brown (10YR 6/4), fine grained, moderate silt, moderately sorted, subangular to subrounded, dense, possible Careaga Formation.	SM		21 33 40 41	100		
50				8 11 14 16	92	0/1.2	Sample V5MW3-50 sent for chemical tests.
55	Same, except very fine grained, moist.			12 15 29	100	0/1.6	
60							End 1530. Drilled 8" hole to 55.5'. Plug-back with bentonite/cement grout from 55.5' to 33'. Set bentonite chips from 33' to 26'. Construct 4" well from 26'bgs.
65							